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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,523	02/12/2004	Guang Q. Li	03-34 US	6418

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Varian Inc.
Legal Department
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EXAMINER	
THERKORN, ERNEST G	

ART UNIT	PAPER NUMBER
1723	

DATE MAILED: 03/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/777,523	LI, GUANG Q.	
	Examiner	Art Unit	
	Ernest G. Therkorn	1723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 January 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6 and 8-45* is/are pending in the application.

4a) Of the above claim(s) *16-18,25-39 and 42-44* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,8-15,19-24,40,41 and 45* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claims 1-6, 8-15, 19-24, 40, 41, and 45 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. No support can be found for excluding 50% humidity and above. Claim 32 indicates that 50 to about 60%, 60 to about 70%, 70-80%, 80-90%, and 90-100% are suitable humidity levels. As such, the claims are considered to be drawn to new matter.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-6, 8-15, 19, 23, 24, 40, 41, and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over each of Abbott (U.S. Patent No. 4,298,500), Cabrera (U.S. Patent No. 5,104,547), Neue (U.S. Patent No. 5,374,755), Nau (U.S. Patent No. 6,071,410), Liu (U.S. Patent No. 6,645,378), and Huang (Analytical Sciences January 2002, Vol. 18, pages 69-72 in view of Karger (U.S. Patent No. 4,996,343) and Fairbank (Journal of Chromatography 830 (1999) pages 285-291). At best, the claims differ from each of Abbott (U.S. Patent No. 4,298,500), Cabrera (U.S. Patent No. 5,104,547), Neue (U.S. Patent No. 5,374,755), Nau (U.S. Patent No. 6,071,410), Liu (U.S. Patent No. 6,645,378), and Huang (Analytical Sciences January 2002, Vol. 18, pages 69-72 in reciting use of an equilibrated substrate. Karger (U.S. Patent No. 4,996,343) (column 4,

lines 12-21 and column 4, line 65-column 5, line 1) discloses that use of an equilibrated silica aids in reproducibility and stability. Fairbank (Journal of Chromatography 830 (1999) pages 285-291) (Abstract and page 286, column 2, the first full paragraph, particularly lines 15-19) discloses that there is an optimum humidity level and that shorter equilibration times give poor reproducibility. It would have been obvious to use an equilibrated substrate in each of Abbott (U.S. Patent No. 4,298,500), Cabrera (U.S. Patent No. 5,104,547), Neue (U.S. Patent No. 5,374,755), Nau (U.S. Patent No. 6,071,410), Liu (U.S. Patent No. 6,645,378), and Huang (Analytical Sciences January 2002, Vol. 18, pages 69-72 because Karger (U.S. Patent No. 4,996,343) (column 4, lines 12-21 and column 4, line 65-column 5, line 1) discloses that use of an equilibrated silica aids in reproducibility and stability and Fairbank (Journal of Chromatography 830 (1999) pages 285-291) (Abstract and page 286, column 2, the first full paragraph, particularly lines 15-19) discloses that there is an optimum humidity level and that shorter equilibration times give poor reproducibility.

Claims 9-15, 23, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over each of Abbott (U.S. Patent No. 4,298,500), Cabrera (U.S. Patent No. 5,104,547), Neue (U.S. Patent No. 5,374,755), Nau (U.S. Patent No. 6,071,410), Liu (U.S. Patent No. 6,645,378), and Huang (Analytical Sciences January 2002, Vol. 18, pages 69-72 in view of Karger (U.S. Patent No. 4,996,343) and Fairbank (Journal of Chromatography 830 (1999) pages 285-291) as applied to claims 1-6, 8-15, 19, 23, 24, 40, 41, and 45 above, and further in view of Neue (U.S. Patent No. 5,374,755). At best, the claims differ from each of Abbott (U.S. Patent No. 4,298,500), Cabrera (U.S. Patent

No. 5,104,547), Neue (U.S. Patent No. 5,374,755), Nau (U.S. Patent No. 6,071,410), Liu (U.S. Patent No. 6,645,378), and Huang (Analytical Sciences January 2002, Vol. 18, pages 69-72 in view of Karger (U.S. Patent No. 4,996,343) and Fairbank (Journal of Chromatography 830 (1999) pages 285-291) in reciting endcapping. Neue (U.S. Patent No. 5,374,755) (column 2, line 13-column 3, line 19) discloses endcapping supports modified by polar silanes reduces undesirable interaction with unmodified silanols. It would have been obvious to endcap in each of Abbott (U.S. Patent No. 4,298,500), Cabrera (U.S. Patent No. 5,104,547), Neue (U.S. Patent No. 5,374,755), Nau (U.S. Patent No. 6,071,410), Liu (U.S. Patent No. 6,645,378), and Huang (Analytical Sciences January 2002, Vol. 18, pages 69-72 in view of Karger (U.S. Patent No. 4,996,343) and Fairbank (Journal of Chromatography 830 (1999) pages 285-291) because Neue (U.S. Patent No. 5,374,755) (column 2, line 13-column 3, line 19) discloses endcapping supports modified by polar silanes reduces undesirable interaction with unmodified silanols.

Claims 11 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over each of Abbott (U.S. Patent No. 4,298,500), Cabrera (U.S. Patent No. 5,104,547), Neue (U.S. Patent No. 5,374,755), Nau (U.S. Patent No. 6,071,410), Liu (U.S. Patent No. 6,645,378), and Huang (Analytical Sciences January 2002, Vol. 18, pages 69-72 in view of Karger (U.S. Patent No. 4,996,343) and Fairbank (Journal of Chromatography 830 (1999) pages 285-291) and Neue (U.S. Patent No. 5,374,755) as applied to claims 9-15, 23, and 24 above, and further in view of Kirkland (U.S. Patent No. 5,869,724). At best, the claims differ from each of Abbott (U.S. Patent No. 4,298,500), Cabrera (U.S.

Patent No. 5,104,547), Neue (U.S. Patent No. 5,374,755), Nau (U.S. Patent No. 6,071,410), Liu (U.S. Patent No. 6,645,378), and Huang (Analytical Sciences January 2002, Vol. 18, pages 69-72 in view of Karger (U.S. Patent No. 4,996,343) and Fairbank (Journal of Chromatography 830 (1999) pages 285-291) and Neue (U.S. Patent No. 5,374,755) in reciting use of a mixture of silanes. Kirkland (U.S. Patent No. 5,869,724) (column 12, lines 1-8, 26-28, and 47-49) discloses that it is desirable to double endcap by dimethylsilyation and trimethylsilyation. It would have been obvious to use a mixture of endcapping silanes in each of Abbott (U.S. Patent No. 4,298,500), Cabrera (U.S. Patent No. 5,104,547), Neue (U.S. Patent No. 5,374,755), Nau (U.S. Patent No. 6,071,410), Liu (U.S. Patent No. 6,645,378), and Huang (Analytical Sciences January 2002, Vol. 18, pages 69-72 in view of Karger (U.S. Patent No. 4,996,343) and Fairbank (Journal of Chromatography 830 (1999) pages 285-291) and Neue (U.S. Patent No. 5,374,755) because Kirkland (U.S. Patent No. 5,869,724) (column 12, lines 1-8, 26-28, and 47-49) discloses that it is desirable to double endcap by dimethylsilyation and trimethylsilyation.

Claims 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over each of Abbott (U.S. Patent No. 4,298,500), Cabrera (U.S. Patent No. 5,104,547), Neue (U.S. Patent No. 5,374,755), Nau (U.S. Patent No. 6,071,410), Liu (U.S. Patent No. 6,645,378), and Huang (Analytical Sciences January 2002, Vol. 18, pages 69-72 in view of Karger (U.S. Patent No. 4,996,343) and Fairbank (Journal of Chromatography 830 (1999) pages 285-291) as applied to claims 1-6, 8-15, 19, 23, 24, 40, 41, and 45 above, and further in view of either Cabrera (U.S. Patent No. 5,104,547) or Ng (U.S. Patent No.

6,296,768). At best, the claims differ from each of Abbott (U.S. Patent No. 4,298,500), Cabrera (U.S. Patent No. 5,104,547), Neue (U.S. Patent No. 5,374,755), Nau (U.S. Patent No. 6,071,410), Liu (U.S. Patent No. 6,645,378), and Huang (Analytical Sciences January 2002, Vol. 18, pages 69-72 in view of Karger (U.S. Patent No. 4,996,343) and Fairbank (Journal of Chromatography 830 (1999) pages 285-291) in reciting use of cyclodextrin. Ng (U.S. Patent No. 6,296,768) (column 2, lines 17-26) discloses use of cyclodextrin ligands allows for efficient bulk/industrial scale enantioseparations. Cabrera (U.S. Patent No. 5,104,547) (column 1, lines 8-13) discloses that use of cyclodextrin as a ligand yields improved separation of enantiomers by chromatography. It would have been obvious to use a cyclodextrin in each of Abbott (U.S. Patent No. 4,298,500), Cabrera (U.S. Patent No. 5,104,547), Neue (U.S. Patent No. 5,374,755), Nau (U.S. Patent No. 6,071,410), Liu (U.S. Patent No. 6,645,378), and Huang (Analytical Sciences January 2002, Vol. 18, pages 69-72 in view of Karger (U.S. Patent No. 4,996,343) and Fairbank (Journal of Chromatography 830 (1999) pages 285-291) either because Ng (U.S. Patent No. 6,296,768) (column 2, lines 17-26) discloses use of cyclodextrin ligands allows for efficient bulk/industrial scale enantioseparations or because Cabrera (U.S. Patent No. 5,104,547) (column 1, lines 8-13) discloses that use of cyclodextrin as a ligand yields improved separation of enantiomers by chromatography.

The remarks appear to urge that Karger (U.S. Patent No. 4,996,343) and Fairbank (Journal of Chromatography 830 (1999) pages 285-291) are applied

alternatively. However, as evidenced by the word "and" in the rejections, they are used conjointly.

The remarks appear to urge that Karger (U.S. Patent No. 4,996,343) is not combinable with each of Abbott (U.S. Patent No. 4,298,500), Cabrera (U.S. Patent No. 5,104,547), Neue (U.S. Patent No. 5,374,755), Nau (U.S. Patent No. 6,071,410), Liu (U.S. Patent No. 6,645,378), and Huang (Analytical Sciences January 2002, Vol. 18, pages 69-72 because it uses solid phase reactions. However, Karger (U.S. Patent No. 4,996,343) does not use the term solid phase reaction. In all the primary references and Karger (U.S. Patent No. 4,996,343), silica is always a solid and the reactants were added in solvents. As such, the primary references and Karger (U.S. Patent No. 4,996,343) are considered to be directed to analogous art. Karger (U.S. Patent No. 4,996,343)'s additional step of eventual solvent removal is not considered to negate the teachings of Karger (U.S. Patent No. 4,996,343).

The remarks appear to urge that Karger (U.S. Patent No. 4,996,343) is not combinable with each of Abbott (U.S. Patent No. 4,298,500), Cabrera (U.S. Patent No. 5,104,547), Neue (U.S. Patent No. 5,374,755), Nau (U.S. Patent No. 6,071,410), Liu (U.S. Patent No. 6,645,378), and Huang (Analytical Sciences January 2002, Vol. 18, pages 69-72 because it is inconsistent with them. Karger (U.S. Patent No. 4,996,343) (column 4, lines 12-21 and column 4, line 65-column 5, line 1) discloses that use of an equilibrated silica aids in reproducibility and stability. However, Karger (U.S. Patent No. 4,996,343)'s column 4, lines 12-21 and column 4, line 65-column 5, line 1 teaching that use of an equilibrated silica aids in reproducibility and stability is consistent with each of

Abbott (U.S. Patent No. 4,298,500), Cabrera (U.S. Patent No. 5,104,547), Neue (U.S. Patent No. 5,374,755), Nau (U.S. Patent No. 6,071,410), Liu (U.S. Patent No. 6,645,378), and Huang (Analytical Sciences January 2002, Vol. 18, pages 69-72.

The remarks appear to urge that Fairbank (Journal of Chromatography 830 (1999) pages 285-291) is not combinable with each of Abbott (U.S. Patent No. 4,298,500), Cabrera (U.S. Patent No. 5,104,547), Neue (U.S. Patent No. 5,374,755), Nau (U.S. Patent No. 6,071,410), Liu (U.S. Patent No. 6,645,378), and Huang (Analytical Sciences January 2002, Vol. 18, pages 69-72 because Fairbank (Journal of Chromatography 830 (1999) pages 285-291) does not teach an equilibration below 50%. Fairbank (Journal of Chromatography 830 (1999) pages 285-291) in the conclusions of page 291 and the Abstract on page 285 discloses an equilibration range of 30% to 60% with 50% being an optimum. Clearly, an equilibration near 50% humidity, such as 49%, is taught by Fairbank (Journal of Chromatography 830 (1999) pages 285-291).

The remarks apparently urge patentability based upon the allegation that page 32, lines 31-34 shows unexpected results. However, the graphs show retention times, retention factors, and peak asymmetry for toluene and peak asymmetry for pyridine for various phases. However, a comparison has not been made between the claimed invention and the prior art. In addition, the results would appear to be limited to processes with either toluene or pyridine in them. As such, unexpected results do not appear to be shown.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication should be directed to E. Therkorn at telephone number (571) 272-1149. The official fax number is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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February 23, 2006